



MDC Resource Science

Movement, habitat selection, and home range of Largemouth Bass in Table Rock Lake, Missouri

Science Notes



This was a cooperative project between the Missouri Cooperative Fish and Wildlife Research Unit, University of Missouri, Missouri Department of Conservation, National Fish and Wildlife Foundation, and Bass Pro Shops.



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Introduction

As reservoirs age, fish habitat may decrease because of increased siltation and deterioration of structures which may affect fish populations. Over the past five years the Missouri Department of Conservation (MDC) has worked to improve reservoir fish habitat in Table Rock Lake, Missouri. Over 2,000 fish habitat structures (e.g., tree, stump, and rock piles) were distributed and geo-referenced in an attempt to improve fish habitat and angler success. Researchers then surgically implanted 70 Largemouth Bass with radio telemetry transmitters and relocated them once a month during the day and night for one year. In addition, 24-hour tracking was used monthly on about 20 fish.

Objectives

- Determine Largemouth Bass habitat selection.
- Determine movement rates of Largemouth Bass and if they differed by month or diel period.
- Determine 50% “core” annual home range estimates of Largemouth Bass.

Results

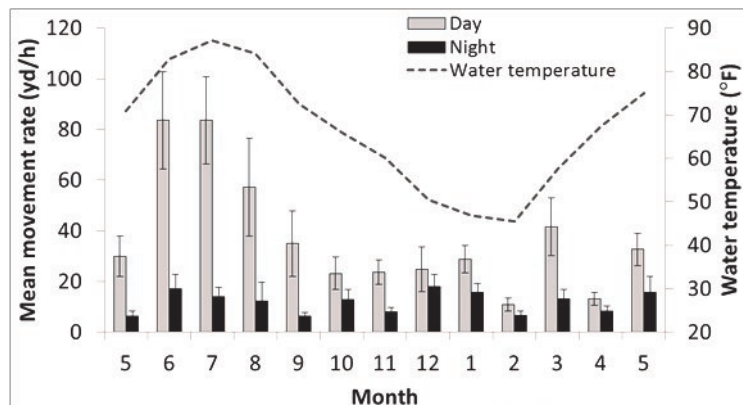


Figure 1. Largemouth Bass mean movement rates (yd/h) in Table Rock Lake, Missouri from May 2011 through May 2012 by month and diel period. Error bars represent one standard error. Secondary axis represents mean water temperature (°F)

Movement:

- Movement rates averaged 31 yards/hour.
- Highest movement rates occurred during warm summer months.

- Little night movement throughout the year (17% to 73% of daytime movement).

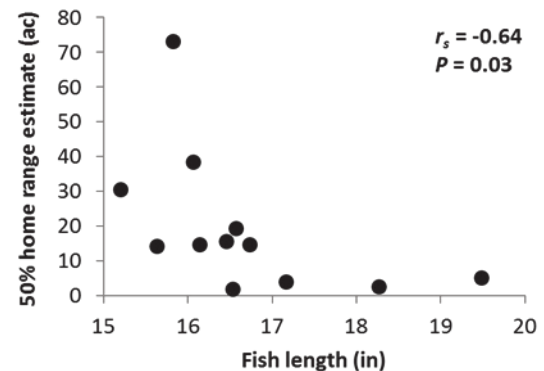


Figure 2. Annual core home range (ac; 50%) compared to total fish length (in) for 12 Largemouth Bass in Table Rock Lake, Missouri from May 2011 to May 2012.

Largemouth Bass selected for:

- Introduced habitat structure, selected at a similar rate to naturally occurring woody structure.
- Depths between 8 - 20 feet.
- Distances between 1 - 25 yards from shore.

Largemouth Bass 50% core home range:

- Averaged 19.5 acres.
- Varied from 1.5 acres to 73 acres.
- Larger fish (>17") had smaller home ranges.

Management Implications

- Additional structures may be able to supplement loss of natural habitat structure.
- Habitat and home range information may be used to prioritize future placement of additional habitat structure within Table Rock Lake and possibly other reservoirs.



For information on Table Rock Lake structure locations,

scan here:



For more information contact:

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Keywords: Table Rock Lake, Largemouth Bass, habitat selection, National Fish Habitat Initiative, movement